

IL-7

Interleukin 7, T-cell growth factor
human, recombinant, *E. coli*

Cat. No.	Amount
PR-468	10 µg

For *in vitro* use only
Quality guaranteed for 12 months
Store at -20°C

Avoid freeze / thaw cycles

Form

Lyophilized.

Solubility

It is recommended to reconstitute the lyophilized IL-7 in bidest H₂O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Activity

ED₅₀: < 0.5 ng/ml, corresponding to a specific activity 2 × 10⁶ IU/mg, determined by the dosedependent stimulation of murine IXN/2B cells.

Molecular Weight

17.4 kDa

Purity

≥ 95% by SDS-PAGE and RP-HPLC

Description

Interleukin-7 (IL-7) plays an essential role in the development and maintenance of T lymphocytes and it was appreciated that the T cell also requires IL-7 after leaving the thymus for homeostatic survival and proliferation. Together with hepatocyte growth factor (HGF) it forms a heterodimer that functions as a pre-pro-B cell growth-stimulating factor. It also is found to be a cofactor for V(D)J rearrangement of the T cell receptor beta (TCRB). Knockout studies suggest that this Cytokine plays a role in lymphoid cell survival.

Recombinant human IL-7 produced in *E. coli* is a single, non-glycosylated polypeptide chain containing 153 amino acids. IL-7 is purified by proprietary chromatographic techniques.

Amino acid sequence

MDCDIEGKDG KQYESVLMVS IDQLDSMKE
IGSNCLNNEF NFFKRHICDA NKEGMFLFRA ARKL
RQFLKM NSTGDFDLHL LKVSEGTTL LNCTGQVKGR
KPAALGEAQP TKSLEENKSL KEQKKLNDLC FLKRLLEIK
TCWINKILMGT KEH

Selected References:

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Cosenza *et al.* (1997) Disulfide bond assignment in human interleukin-7 by matrix-assisted laser desorption/ionization mass spectroscopy and site-directed cysteine to serine mutational analysis. *J. Biol. Chem.* **272**:32995.
Kroemer *et al.* (1996) Homology modeling study of the human interleukin-7 receptor complex. *Protein Eng.* **9**:1135.
Grzegorzewski *et al.* (1996) Quantitative and cell-cycle differences in progenitor cells mobilized by recombinant human interleukin-7 and recombinant human granulocyte colony-stimulating factor. *Blood.* **88**:4139.
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Kim *et al.* (1994) Consequences of stable transduction and antigeninducible expression of the human interleukin-7 gene on tetanustoxoid-specific T cells. *Hum. Gene Ther.* **5**:1457.